UNITED STATES PATENT AND TRADEMARK OFFICE

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10/500,146	07/09/2004	Yasushi Katayama	253399US6PCT	5243

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NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26 and 29* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26 and 29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This communication is in response to Application No. 10/500,146 filed nationally

on 09 July 2004 and internationally on 18 November 2003. The amendment presented

on 13 August 2008, which provides change to claims 1-9, 11-15, 17-18, 20-22, and 24-

26, and adds claim 29, is hereby acknowledged. Claims 1-26 and 29 have been

examined.

Response to Arguments

2.   Applicant's arguments, filed 13 August 2008, with respect to the rejection(s) of

claim(s) 1 and 11 under 35 USC 103(a) in view of cited art as specified in non-final

action dated 01 May 2008 have been fully considered and are persuasive. Therefore,

the rejection has been withdrawn. However, upon further consideration, new ground(s)

of rejection may be found below.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

4.   Claims 1-10 and 14-23 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

Regarding claims 1 and 14, these claims recite the limitation "*determine a data transmission ratio between the selected one or more data transmission modes*". Since the wording in the claim covers the case in which only one transmission mode is selected, it is unclear how a subsequent ratio could be determined *between* modes during said case of single mode selection. Theoretically you could have a ratio of 1:0 to enable transmitting with just one mode when two are selected, but the second transmission mode must still be selected in order to determine the ratio between them. This rejection could be overcome, for instance, by adjusting the language to cover the following concept: determining a transmission ratio between all possible transmission modes, and then selecting one transmission mode based on the ratio. The examiner is by no means asserting this concept is enabled by the specification, however, though it very well may be. For purposes of further examination the examiner will consider the limitation to read as follows:

"*a data transmission setting unit configured to determine a data transmission ratio between two or more data transmission modes, and to select one or more data transmission modes as the return data transmission mode*".

Regarding claims 2-10 and 15-23, these claims inherit the indefiniteness of their parent independent claim.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1-4, 8, 14-17, and 21 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Fradette (US 6,606,698 B2), and in further view of Teruhi et al (US

2003/0072269 A1) and Day et al (US 7,260,601 B1).

Regarding claim 1, Fradette teaches an information processing apparatus configured to

server as a reproduction instruction apparatus configured to transmit a data

reproduction process request to a node connected to a network and to execute a data

reproduction process based on return data (Fradette: Figures 3 and 11; col 9, lines 28-

67), comprising:

a packet generating unit configured to set reproduction object data and an

address, and to generate a data reproduction process request packet storing

designation data for the set reproduction object data as a request statement (Fradette:

col 9, lines 28-67);

a network interface unit configured to transmit the data reproduction process

request packet generated by the packet generating unit (Fradette: col 9, lines 28-67).

Fradette does not teach a data transmission setting unit configured to determine a data transmission ratio between two or more data transmission modes, and to select one or more data transmission modes as the data transmission mode; or

wherein the packet address is set in accordance with the data transmission ratio determined by the transmission setting unit; or

wherein the data transmission mode is a return data transmission mode.

Teruhi, in a similar field of endeavor, teaches a data transmission setting unit configured to determine a data transmission ratio between two or more data transmission modes, and to select one or more data transmission modes as the data transmission mode (Teruhi: [0009]-[0012]); and

wherein a data transmission characteristic is the data transmission ratio determined by the transmission setting unit (Teruhi: [0009]-[0012]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Teruhi for determining a distribution ratio between transmission methods. The teachings of Teruhi, when implemented in the Fradette system, will allow one of ordinary skill in the art to intelligently distribute information based on a ratio. One of ordinary skill in the art would be motivated to utilize the teachings of Teruhi in the Fradette system in order to increase the efficiency of communication on the network.

The Fradette/Teruhi system does not teach wherein the packet address is set in accordance with the data transmission characteristic; or

wherein the data transmission mode is a return data transmission mode.

Day, in a similar field of endeavor, teaches wherein the packet address is set in accordance with the data transmission characteristic (Day: col 1, lines 21-53 provide packet addresses are function of whether the packet is unicast, multicast, or broadcast); and

wherein the data transmission mode is a return data transmission mode (Day: col 4, lines 33-47).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Day for changing the address based on the distribution characteristic. The teachings of Day, when implemented in the Fradette/Teruhi system, will allow one of ordinary skill in the art to address the packet based on a distribution ratio. One of ordinary skill in the art would be motivated to utilize the teachings of Day in the Fradette/Teruhi system in order to enable practicing the system with varying distribution modes, such as multicast or unicast.

Regarding claim 2, the Fradette/Teruhi/Day system teaches wherein the data transmission setting unit is configured to select the one or more data transmission modes in accordance with a demand level of the reproduction object data (Day: Figures 3 and 4; col 3, lines 40-62).

Regarding claim 3, the Fradette/Teruhi/Day system teaches wherein the data transmission setting unit is configured to select the one or more data transmission

modes from a carousel transmission mode, a chaining transmission mode, a distributed

cache mode, or a client-server mode (Day: col 3, lines 40-62 provide for unicast).

Regarding claim 4, the Fradette/Teruhi/Day system teaches wherein the data

transmission setting unit is configured to use a correspondence between a demand

level of the reproduction object data and a band ratio as the data transmission ratio

between the selected data transmission modes, and to select the one or more data

transmission modes based upon demand level information of the reproduction object

data in accordance with the correspondence (Day: col 3, line 40 – col 4, line 46 provide

for utilizing bandwidth and popularity as considerations when determining transmission

characteristics; Teruhi: [0009]-[0012]; [0040]-[0043] provide for distribution ratios based

on characteristics; See Day for selecting distribution method based on popularity).

Regarding claim 8, the Fradette/Teruhi/Day system teaches further comprising:

        a rule judgment condition setting unit configured to set judgment data for judging

whether the node executes a process satisfying a process request (Fradette: col 8, lines

35-50); and

        wherein the packet generating unit is configured to generate the data

reproduction process request packet, which stores the judgment data set by the rule

judgment condition setting unit (Fradette: col 9, line 60 – col 10, line 3).

Regarding claim 14, this method claim contains limitations found within claim 1 and the same rationale of rejection is used, where applicable.

Regarding claim 15, this method claim contains limitations found within claim 2 and the same rationale of rejection is used, where applicable.

Regarding claim 16, this method claim contains limitations found within claim 3 and the same rationale of rejection is used, where applicable.

Regarding claim 17, this method claim contains limitations found within claim 4 and the same rationale of rejection is used, where applicable.

Regarding claim 21, this method claim contains limitations found within claim 8 and the same rationale of rejection is used, where applicable.

7.   Claims 5 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fradette (US 6,606,698 B2), in view of Teruhi et al (US 2003/0072269 A1) and Day et al (US 7,260,601 B1), and in further view of Desphande (US 7,191,246 B2).

Regarding claim 5, the Fradette/Teruhi/Day system teaches wherein the data transmission setting unit is configured to determine a data transmission ratio of each of the data transmission modes in accordance with a value of a demand level x

determined by demand information, a band ratio y for each of the transmission modes,

and an identification value n of each of the data transmission modes, the demand

information being related to the reproduction object data (Teruhi: [0009]-[0012]; [0040]-

[0043] provide for distribution ratios for each mode based on characteristics; Day: col 3,

line 40 – col 4, line 46 for modes being multicast/unitcast/broadcast and identifying

between, characteristics being popularity, and percent channel utilization, i.e. band

ratio).

The Fradette/Teruhi/Day system does not teach wherein the calculation is

determined by adopting a function group.

Desphande, in a similar field of endeavor, teaches wherein the calculation is

determined by adopting a function group (Desphande: col 5, lines 26-62).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to utilize the teachings of Desphande for adopting a function group.

The teachings of Desphande, when implemented in the Fradette/Teruhi/Day system,

will allow one of ordinary skill in the art to use a function group to determine

transmission ratios between modes based on multiple characteristics. One of ordinary

skill in the art would be motivated to utilize the teachings of Desphande in the

Fradette/Teruhi/Day system in order to provide accurate and concrete results when

practicing the system.

Regarding claim 18, this method claim contains limitations found within claim 5 and the

same rationale of rejection is used, where applicable.

8.   Claims 6 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Fradette (US 6,606,698 B2), in view of Teruhi et al (US 2003/0072269 A1) and Day et al

(US 7,260,601 B1), and in further view of Gemmell (US 6,678,855 B1).

Regarding claim 6, the Fradette/Teruhi/Day system teaches wherein the data

transmission setting unit is configured to select a broadcast transmission mode as the

return data transmission mode, when a demand level of the reproduction object data is

higher than a preset threshold value (Day: col 3, line 40 – col 4, line 46).

        The Fradette/Teruhi/Day system does not teach wherein a transmission mode is

a carousel transmission mode.

        Gemmell, in a similar field of endeavor, teaches wherein a transmission mode is

a carousel transmission mode (Gemmell: abstract).

        It would have been obvious to one of ordinary skill in the art at the time the

invention was made to utilize the teachings of Gemmell for using a carousel mode. The

teachings of Gemmell, when implemented in the Fradette/Teruhi/Day system, will allow

one of ordinary skill in the art to use a carousel mode when popularity was high. One of

ordinary skill in the art would be motivated to utilize the teachings of Gemmell in the

Fradette/Teruhi/Day system in order to enable practicing the system.

Regarding claim 19, this method claim contains limitations found within claim 6 and the

same rationale of rejection is used, where applicable.

9.   Claims 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Fradette (US 6,606,698 B2), in view of Teruhi et al (US 2003/0072269 A1) and Day et al

(US 7,260,601 B1), and in further view of Noma et al (US 2003/0055988 A1).

Regarding claim 7, the Fradette/Teruhi/Day system teaches a data recovery processing

unit configured to execute processing for the reproduction object data, which is

extracted from packets received from the node (Fradette: col 5, lines 8-30).

        The Fradette/Teruhi/Day system does not teach wherein the processing is a de-

interleave process and an FEC decoding process.

        Noma, in a similar field of endeavor, teaches wherein the processing is a de-

interleave process and a FEC decoding process (Noma: [0044]).

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to utilize the teachings of Noma for using interleaving/deinterleaving and

FEC encoding/decoding of the data. The teachings of Noma, when implemented in the

Fradette/Teruhi/Day system, will allow one of ordinary skill in the art to interleave and

encode data transmitted. One of ordinary skill in the art would be motivated to utilize

the teachings of Noma in the Fradette/Teruhi/Day system in order to quickly and reliably

correcting transmission errors.

Regarding claim 20, this method claim contains limitations found within claim 7 and the

same rationale of rejection is used, where applicable.

10.   Claims 9 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Fradette (US 6,606,698 B2), in view of Teruhi et al (US 2003/0072269 A1) and Day et al

(US 7,260,601 B1), and in further view of Fukunaga et al (US 6,282,240 B1).

Regarding claim 9, the Fradette/Teruhi/Day system teaches wherein the packet

generating unit is configured to generate a packet storing judgment data (Fradette: col

9, lines 52-62).

        The Fradette/Teruhi/Day system does not teach wherein the rule judgment

condition setting unit is configured to set a probability value as a reproduction rule

judgment condition statement for judging whether the node executes the process

satisfying the process request; and

        wherein judgment data is the probability value.

        Fukunaga, in a similar field of endeavor, teaches wherein the rule judgment

condition setting unit is configured to set a probability value as a reproduction rule

judgment condition statement for judging whether the node executes the process

satisfying the process request (Fukunaga: col 5, lines 18-48); and

        wherein judgment data is the probability value (Fukunaga: col 5, lines 18-48).

        It would have been obvious to one of ordinary skill in the art at the time the

invention was made to utilize the teachings of Fukunaga for calculating the probability a

node would execute a process. The teachings of Fukunaga, when implemented in the

Fradette/Teruhi/Day system, will allow one of ordinary skill in the art to make a selective

target determination. One of ordinary skill in the art would be motivated to utilize the

teachings of Fukunaga in the Fradette/Teruhi/Day system in order to allow selective

retransmissions if the target is anticipated as not processing the request, thereby

decreasing response time.

Regarding claim 22, this method claim contains limitations found within claim 9 and the

same rationale of rejection is used, where applicable.

11.   Claims 11, 24, and 29 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Day et al (US 7,260,601 B1), and in further view of Day et al (US

7,222,185 B1).

Regarding claim 11, Day '601 teaches an information processing apparatus configured

to server as a wanted information provider apparatus configured to provide wanted

information over a network, the information processing apparatus comprising:

        a communication unit configured to receive from a network-connected node a

request corresponding to at least one of the transmission data (Day '601: col 4, lines 33-

47); and

        a control unit configured to:

                count a number of requests corresponding to each of the transmission

        data, the requests having been receive via the communication unit (Day '601:

        Figure 8; Figure 4; Figure 2, item 210; col 4, lines 33-47),

generate demand level information for each of the transmission data in

accordance with the corresponding counted number (Day '601: Figure 3; col 9,

lines 13-33),

generate response information corresponding to the received request in

accordance with the generated demand level information (Day '601: col 5, lines

4-28), and

to transmit the response information to the network-connected node via

the communication unit (Day '601: col 4, lines 33-47; col 5, lines 4-28);

wherein wanted information is provided based on a client acquisition request

(Day '601: col 4, lines 33-47); and

wherein demand level information is regarding a plurality of transmission data

(Day '601: Figure 3).

The Day '601 system does not teach wherein wanted information is demand level

information.

Day '185, in a similar field of endeavor, teaches wherein wanted information is

demand level information (Day '185: col 8, lines 18-36).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to utilize the teachings of Day '185 for managing popularity

information on a separate network unit and providing the popularity information. The

teachings of Day '185, when implemented in the Day '601 system, will allow one of

ordinary skill in the art to manage popularity in a separate network unit and then provide

the popularity information as necessary. One of ordinary skill in the art would be

motivated to utilize the teachings of Day '185 in the Day '601 system in order to further

modularize the distribution system for easier management and capability.

Regarding claim 24, this method claim contains limitations found within claim 11 and the

same rationale of rejection is used, where applicable.

Regarding claim 29, the Day '601/Day '185 system teaches wherein the control unit is

further configured to generate the response information which includes the demand

level information (Day '601: col 4, lines 33-47 for request/response model; Day '185: col

8, lines 18-36 provides for including popularity rating in response).

12.   Claims 12-13 and 25-26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Day et al (US 7,260,601 B1), in view of Day et al (US 7,222,185 B1),

and in further view of Gemmell (US 6,678,855 B1).

Regarding claim 12, The Day '601/Day '185 system teaches wherein the control unit is

configured to execute transmission control of a transmission process request for one of

the transmission data that corresponds to a demand level equal to or larger than a

threshold value, relative to a transmission execution node when the demand level

based upon the counted number for the one of the transmission data becomes equal or

larger than a preset threshold value (Day '601: Figure 8; col 4, lines 10-57; Day '185: col

8, lines 37-61).

The Day '601/Day '185 system does not teach wherein the transmission is a carousel transmission.

Gemmell, in a similar field of endeavor, teaches wherein a transmission is a carousel transmission (Gemmell: abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Gemmell for using a carousel mode. The teachings of Gemmell, when implemented in the Day '601/Day '185 system, will allow one of ordinary skill in the art to use a carousel mode when popularity was above a certain audience threshold. One of ordinary skill in the art would be motivated to utilize the teachings of Gemmell in the Day '601/Day '185 system in order to enable practicing the system with known transmission techniques.

Regarding claim 13, the Day '601/Day '185/Gemmell system teaches wherein the control unit is configured to an include an identifier of carousel transmission execution object data and carousel transmission destination address information set in accordance with transmission source node address information of the received demand level information acquisition request, in the carousel transmission process request (Day '601: col 4, line 33 – col 5, lines 14 provide request responses are addressed to the requestor and that content identifiers can be included in responses).

Regarding claim 25, this method claim contains limitations found within claim 12 and the same rationale of rejection is used, where applicable.

Regarding claim 26, this method claim contains limitations found within claim 13 and the

same rationale of rejection is used, where applicable.

Allowable Subject Matter

13.   Claims 10 and 23 would be allowable if rewritten to overcome the rejection(s)

under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of

the limitations of the base claim and any intervening claims.

Cited Pertinent Prior Art

14.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

      a.   Nakatsuyama (US 6,253,246 B1) discloses a distribution system that

adapts the transmission volume by altering quality to meet requestor needs.

      b.   Ravi et al (US 6,292,834 B1) discloses a distribution system that

dynamically adapts transmission rate based on available network bandwidth.

      c.   Sim (US 6,970,939 B2) discloses a distribution system that determines

which nodes should locally cache information based on varying criteria, such as

popularity.

Conclusion

15.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY NICKERSON whose telephone number is (571)270-3631. The examiner can normally be reached on M-Th, 8:30-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on 571-272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. N./   /Andrew Caldwell/
Jeffrey Nickerson   Supervisory Patent Examiner, Art
Examiner, Art Unit 2442   Unit 2442